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FIRST ANNUAL REPORT

OF THE

STATE AGRICULTURAL LIME BOARD

FOR THE FISCAL YEAR ENDING

SEPTEMBER 30th, 1917.

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Maryland. State Board of Agriculture.

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To the Hon. Hugh H. McMullen,
Comptroller of the Treasury.

Sir: As prescribed by the laws of Maryland, Chapter 221, 1916, creating the State Agricultural Lime Board and providing for establishing in Southern Maryland a plant for the conversion and reduction of oyster shells into agricultural lime, a report on the operation of the plant is herewith transmitted.

The report includes a summary of the work accomplished in establishing the plant, a statement of finances and a discussion of the benefits derived in making this valuable material available to the farmers of Southern Maryland, which will greatly aid in increasing production of farm crops.

Respectfully submitted,

T. B. Symons,
W. W. Skinner,
State Agricultural Lime Board

January, 1918.

THE GRINDING PLANT

First Annual Report of the State Agricultural Lime Board, for the Fiscal Year Ending September 30th, 1917

To the State Agricultural Lime Board:

The State Agricultural Lime Board was created under Chapter No. 221 of the Acts of the General Assembly of Maryland, 1916, and approved by the Governor April 8th of the same year. The Act provides for an appropriation of $12,000.00, to be used for the purpose of converting the large quantities of oyster shells found and produced in Maryland, into agricultural lime.

The law was intended principally for the benefit of Southern Maryland, which lies distant from the State's limestone regions. In this section continuous cropping for generations has tended to diminish the supply of lime contained in the soil to the extent that on many farms the soil has reached a state known as "acid," and clover and other crops refuse to grow. As a result of this condition, much of the land has become unprofitable for farming, and large areas have been abandoned for agricultural purposes.

Except for the above described condition, brought about largely by ignorance on the part of land-owners and tenants of the fundamental requirements of the soil, Southern Maryland is one of the most desirable farming and residential sections of the State.

The white population is composed mostly of descendants of the early pioneers, who, headed by Leonard Calvert, settled at St. Mary's City on March 25, 1634, in search of religious freedom.

The soil responds readily to proper treatment and is adapted to the growing of widely diversified crops.

The climate, especially in the salt-water sections, is mild and favorable to the growing of early fruits and vegetables for

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The climate, especially in the salt-water sections, is mild and favorable to the growing of early fruits and vegetables for

the markets close at hand. The splendid State roads system is doing much in the way of development, and affords means for drawing the attention of prospective investors to the exceptional opportunities possessed by this favored locality. The many beautiful water fronts connected with the neighboring cities by splendid highways, and along which an abundance of fish, oysters, crabs and wild game abound, are sought by Government officials and others seeking homes. Taken altogether, the advantages of Southern Maryland are not surpassed by any other section of the State, and her future seems a most promising one.

The great problem of this otherwise very desirable section is that of neutralizing the acid in the soil and restoring it to a condition which will permit a greater acreage yield of crops. After a period of seven months' operation, the State Lime Board feels the solution of this problem is in sight.

The manufacture of lime in communities where heretofore little, if any, had been used, owing to difficulties of transportation in connection with its delivery, has not only greatly increased its use in those communities but has stimulated an interest in agriculture generally on the part of many who had considered the situation almost hopeless. As a result, the demand has been greater, at times, than the limited capacity of the plant could supply; the sales for the period since operations began have been almost double expectations, and several hundred dollars' worth of orders have been turned away.

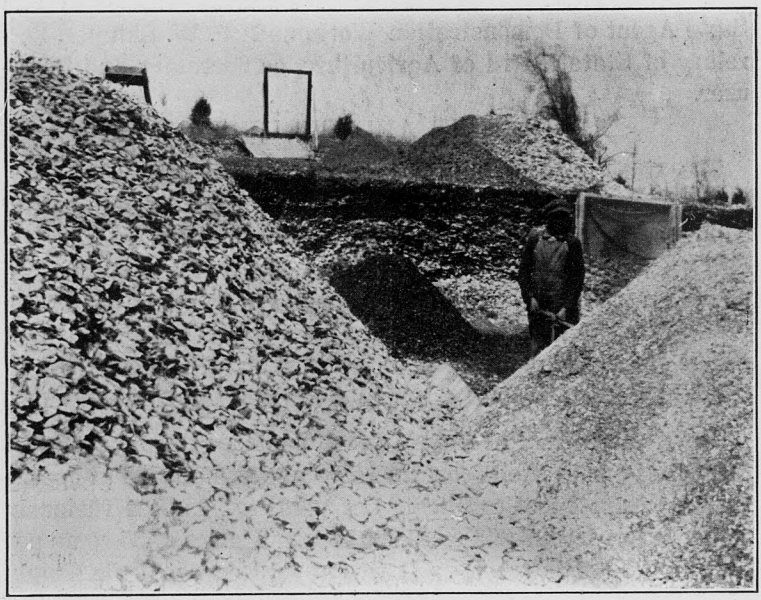
Significant of the educational value of the new enterprise is the fact that 80 per cent. of those who have purchased lime have never used it before.

In addition to encouraging the use of lime in Southern Maryland and supplying a means whereby it might be secured in limited quantities at economical rates, the State Lime Board has endeavored to supplement the activities of other State agencies by persuading farmers all over the State to secure lime from local concerns operating in various localities throughout the State.

The State Lime Board, realizing the necessity for increased production of foodstuffs in the face of decreased man-power,

due to the war with Germany, and believing that this end can better be accomplished by increasing the yield per acre rather than by attempting to cultivate more land than can be properly worked, has advocated the regular use of lime in connection with green manures in the farming rotation.

By virtue of the State conserving the waste product from its great oyster industry and utilizing it as a means for relieving, to some extent, the high cost of living by increasing the production of food from its farms, there is developing on the



EIGHT FEET OF SHELLS

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ORGANIZATION.

The law provides that the Board shall consist of the Secretary of the State Board of Agriculture, the Director of Farmers' Institutes and the State Agent of Farmers' Demonstration

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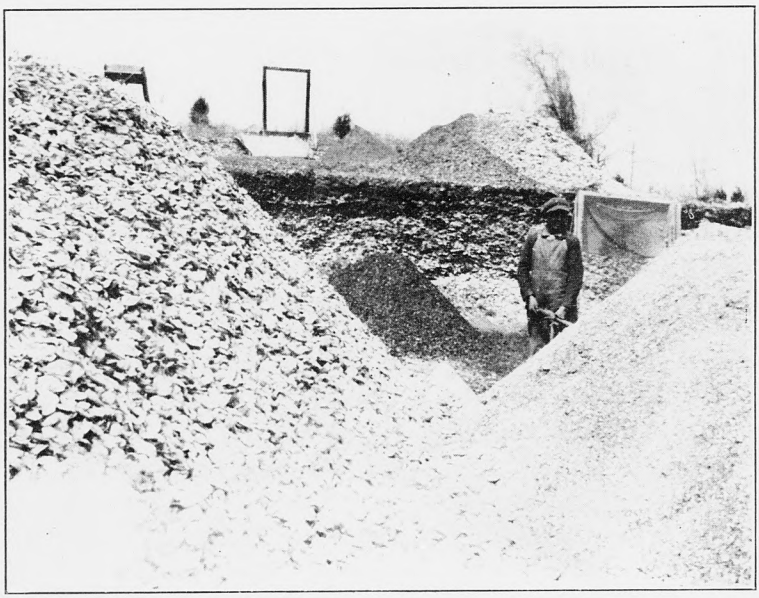

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Work, or their successors in office, to serve without other compensation than their expenses.

Accordingly, the Board organized in September, 1916, with Dr. Richard S. Hill, President, and Mr. G. H. Alford, Secretary and Treasurer. Mr. John M. Dennis was the other member of the Board. Since that time the personnel of the Board has changed through the death of Dr. Hill and the resignations of Messrs. Alford and Dennis from their respective positions as Demonstration Agent and Secretary to the State Board of Agriculture. The present Board consists of Thomas B. Symons, President, Acting Director of Farmers' Institutes and State Agent of Demonstration Work, and W. W. Skinner, Secretary of State Board of Agriculture, as Secretary and Treasurer.

EQUIPMENT AND PRODUCTION.

The work was organized in September, 1916, with J. H. Blandford, Jr., as Superintendent. The work of purchasing supplies, erecting buildings and installing machinery was carried on vigorously during the winter of 1916-17, and arrangements completed for supplying farmers with lime in the spring of 1917. A factory was equipped at Pope's Creek upon land leased for a period of ten years, with the right reserved to remove any or all property during or at the end of that time.

The raw material at Pope's Creek is secured from a natural deposit of oyster shells covering several acres of land at depths ranging from 2 feet to 8 feet; the quantity has been variously estimated at from 5,000 to 15,000 tons. A price of 35 cents per ton is paid for the shells. It was at first expected the supply of shells at this place would last about eight years, but the demand at present indicates that it will be exhausted in considerably less time. The shells are very finely ground and the finished product analyzes from 90 to 95 per cent. calcium carbonate.

The outfit at Pope's Creek consists of a two-story building, 60x44 feet, a 30-60 horsepower Case gasoline coal-oil tractor, a Jeffrey 30x24 pulverizer, elevator and screen, a chute and wharf for loading boats, two horses and carts, tank, office furniture, and the necessary supply of tools and implements for handling the raw material and lime.

The factory is located about 150 yards from the Pennsylvania railroad tracks at Pope's Creek Station. It stands 30 feet from the edge of a cliff, overlooking the Potomac river about 100 feet below. A chute runs from the storage rooms to a wharf where boats of light draft are loaded.

From the 1st of March, 1917, to the present date—November 1st—2,159 tons of lime have been sold from Pope's Creek. The price charged prior to June 1st was $2.25 per ton in bulk. Since that time, owing to advances in the cost of labor and fuel, the

SCREENING SHELLS AT POPE'S CREEK

price of $2.75 has been charged; $1.00 per ton additional was charged for bags, of which 75 cents was refunded upon return of same. The deposit at Pope's Creek is covered by from 6 to 12 inches of decomposed shells and organic matter, over which sweet clover grows abundantly. This material is separated from the shells before grinding, and 192 tons of it have been sold to near-by farmers at $1.50 per ton. It analyzes about 50 per cent. calcium carbonate, and can only be classed as a low-grade fine shell. Very satisfactory results have been reported from its use.

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A small outfit has been temporarily placed at Cornfield Harbor, in St. Mary's county, as a branch of the Pope's Creek plant. The purpose of this was to grind into lime about 1,000 tons of shells belonging to Mr. James Hall, the by-product of his oyster canning factory. Only 196 tons have been produced here thus far, of which 176 tons have been sold at $2.75 per ton. There is a strong demand for lime on the part of the farmers of St. Mary's county. The accumulation of shells from oyster canning factories in the county amount to several thousand tons

SECTION OF SHELL DEPOSIT AT POPE'S CREEK

annually, all of which and more, if ground into lime, can be sold to the farmers of St. Mary's and Calvert counties.

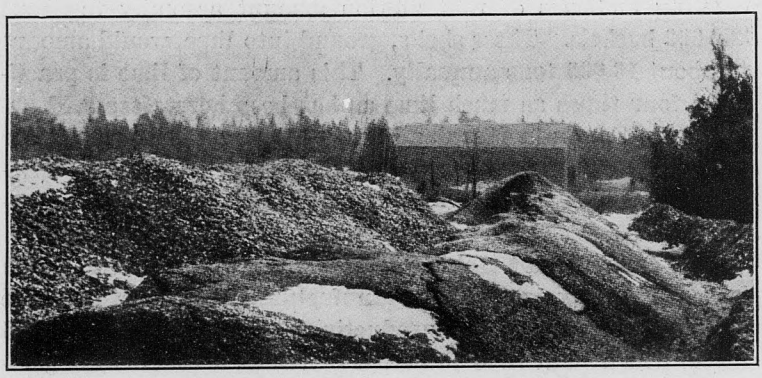
After the spring rush of orders was over at Pope's Creek, the engine and crusher were removed from that place to Rock Point, at the junction of the Wicomico and Potomac rivers, where it remained in operation during a period of six weeks. Four hundred and eighty-one tons of lime were made from the shells from a canning-house at this point, all of which was promptly sold at $2.75 per ton. The demand here was far in

excess of the supply, one farmer offering to take the entire lot. It was decided, however, to sell in small lots in order to accommodate as many as possible.

At this date, November 1st, nearly 3,000 tons have been sold at an average price of about $2.45 per ton; all of this was used in Southern Maryland, except 165 tons sold on the Eastern Shore. Many orders were received from that part of the State, but, owing to the limited capacity of the plant, most of them were necessarily canceled.

TRANSPORTATION.

The manufacture of lime in Southern Maryland is saving the farmers of that section fully $1 per ton in freight charges;



OYSTER SHELLS 2 TO 8 FEET DEEP

many haul it direct from the factory to the field; nearly the entire output from Rock Point was handled in this way. Others send their own boats to the factory or secure boats from neighbors for this purpose. The Board is considering the purchase of a medium-sized boat, in order to afford greater accommodation to the many farmers of this section of the State who depend entirely upon water transportation for their supplies.

The Pennsylvania Railroad Company has granted as far north as Bowie, in Prince George's county, a material reduction in the old rates prevailing before the plant was established at Pope's Creek. Owing to the sure development and increased business which follows the application of lime upon farm land, the transportation companies in some parts of the country are

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hauling lime at about cost, in order to encourage its use by the farmers. This is notably true of the railroads of Illinois and Virginia. The amount of agricultural lime used and, consequently, the quantity and quality of food produced in Maryland depends greatly upon the freight rates charged on lime; it is, therefore, earnestly desired that the transportation companies operating in Maryland may be able to accord the farmers of our State the same generous treatment with which the companies of other localities have favored their patrons.

CONCLUSION.

In addition to the present deposits or accumulation of oyster shells in Southern Maryland, the shells produced by the oyster canning factories of that section amount annually to about 300,000 bushels. These shells, ground into lime, would amount to about 10,000 tons annually. This amount of lime is practically four times as much lime as has been heretofore sold annually in Southern Maryland during the past ten years. The experience of the past season has demonstrated that the farmers of that section will eagerly purchase all available lime under reasonable conditions of price and convenience of haul.

It is believed that making available this raw product, which is serving no purpose, into a manufactured product of immense value for increasing the productivity of Southern Maryland farms which need lime so badly, serves as a practical demonstration in efficiency and economy.

The more general use of lime in Southern Maryland will greatly aid the farmers in answering the call of the President for increased production of all farm crops.

Respectfully,

J. H. Blandford, Jr.,

Superintendent.

FINANCIAL STATEMENT

For Fiscal Year Beginning October 1st, 1917, and Ending September 30th, 1917.

RECEIPTS.

Appropriation under Chapter 221, Acts of 1916	$12,000.00		
Interest	140.19		
		$12,140.19	
2,631½ tons lime sold to Sept. 30th	$ 6,340.50		
Sale of bags, etc.	2,002.79		
		8,343.29	
			$20,483.48

DISBURSEMENTS.

Labor and material for construction of plant	$ 8,119.32		
Supervision in connection with construction of plant	1,000.00		
		$ 9,119.32	
Labor and material for operation of plant	$ 6,982.75		
Supervision in connection with operation of plant	808.34		
		7,791.09	
Miscellaneous		348.52	
		$17,258.93	
Cash on hand		3,224.55	
			$20,483.48

INVENTORY SEPTEMBER 30th, 1917.

The Following Property Located At Pope's Creek:

Building, wharf and loader	$ 1,500.00	
Crusher, elevator and screen	1,500.00	
30-60 H. P. Case tractor	2,500.00	
Coal-oil tank	100.00	
Two horses, two carts and harness	500 00	
Tools and equipment	250.00	
2,000 bags	170.00	
		$ 6,520.00

At Cornfield Harbor.

Building	$ 600.00	
Crusher and conveyor	1,000.00	
20 H. P. International coal-oil engine	800 00	
Tools and equipment	200.00	
		$ 2,600.00
		$ 9,120.00

SUPPLIES ON HAND, UNSOLD.

Pope's Creek.

100 tons of lime	$ 275.00	
800 tons of screenings	1,000.00	
		$ 1,275.00

Cornfield Harbor.

20 tons of lime	$ 55.00		
		55.00	
			1,330.00
Balance on hand from appropriation (of $12,000.00, and interest, $140.19)		$ 2,131.29	
Cash on hand and in bank, account of Pope's Creek Plant	$ 438.96		
Cash on hand and in bank, Cornfield Harbor	654.30		
		1,093.26	
			3,224.55
Total Value of Plant and Supplies, October 1, 1917			$13,674.55